

Breakout II.E. Challenges Facing the Growing Livestock Industry

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Odor, neighbor's perceptions and water quality issues limit the expansion of the livestock industry. How can these be addressed in policy and practice?

In 1995-96 the odor issue hit hard in Iowa. **Steve Hoff** did a lot of research from 1998-2008 helping producers and the Iowa legislature address the issue of animal agriculture and odor. Producers were advised, at that time, to address odor issues through mitigation or, more importantly, in terms of siting new facilities to have the least impact on the community. Iowa State has worked on mitigation technologies such as biofilters and ultraviolet light but such strategies are costly and cumbersome.

Hoff tried "source-based siting" which puts circles around each of the sources and looks at the separation distances relevant to neighbors to make some decisions on where to put the facility. He didn't like that approach.

There is no better odor control technology than proper siting.

Hoff prefers a receptor-based odor model that predicts odor impacts at different levels and times on community members from the perspective of the additional odor load from a proposed facility relative to what already exists in the community. He recommends considering which of several alternative sites would minimize odor impact based on the location of neighbors and other existing sources of odor.

Hoff's "community assessment model for odor dispersion" maps all sources and residences and evaluates different options for sites. It imposes local weather patterns on the map because distances are not equal in all directions. This tells how a given facility that will be ventilated at a certain rate will carry a certain level of odor concentration that has been measured and documented. The model tells how the emissions will move at different times of day and targets when their concentrations will be higher downwind.

The system developed at Iowa State is voluntary. The producer goes to the Coalition to Support Iowa's Farmers which assesses whether the proposed site has sufficient data to make a decision. The coalition then utilizes the university's Pork Industry Center to map the area, run the model and provide simple answers such as whether a particular neighbor will or won't be below a certain criteria. A Center staffer talks to the producer about the model predictions. Then, the producer is encouraged to talk to every neighbor about steps taken to address the new siting situation. The model acknowledges that zero odors are not predicted but based on local weather patterns and a given neighbor's location relative to the proposed facility, they can expect x number of hours per year of identifiable odor.

Even under the best models, odors are sporadic and can shift constantly. People smell with their eyes and conclude that if it smells bad, it must be bad for them. The public tends to ignore the science of minimum risk levels for substances such as ammonia and hydrogen sulfide. They are threatened even when downwind incidents are considerably below the risk level.

The best outcome for new livestock facilities therefore uses siting tools that minimize downwind odor impact incidents while educating neighbors about what to expect in terms of aesthetic and health aspects of emissions.

Asked about efforts to develop dependable, objective measures of odor, Hoff responded that this, in the medical community, a combination of concentration level plus exposure duration. The current formula is a ratio of seven percent dilution to two percent time for an identifiable odor. Gas chromatography has promise as a technology to address this but it is very expensive. Distances still need to be factored into the equation to address facility siting.

Gary Baise briefly discussed challenges to agriculture operations from several court cases involving air, water and waste as well as interstate commerce and right to farm issues.

Air quality

The USEPA air model is used in trial cases but most juries in rural communities don't have an adequate science background to understand it. As noted earlier by Steve Hoff, the public is concerned with emission factors of volatile organic chemicals.

EPA doesn't know what to do with all the cases coming in regarding pounds/tons of emissions from animal feeding operations. (EPA is monitoring voluntary sites in nine states over two years for particulates, ammonia, hydrogen sulfide and volatile organic compounds.) If they evaporate it becomes a drift issue such as the dicamba herbicide drift complaints in Arkansas. (The Arkansas State Plant Board voted to ban dicamba for the 2018 planting season.)

Water quality

Section 404 of the Clean Water Act requires individuals to obtain a permit before discharging dredged or fill material into waters of the United States, including most wetlands. The Swampbuster provisions of the Food Security Act withhold certain federal farm program benefits from farmers who convert or modify wetlands.

Animal confinement and interstate commerce

[Protect the Harvest](#), a SARC Heritage Member, is dealing with two matters that are important to agriculture. Two lawsuits by groups of states led by Missouri and Indiana in December 2017 contested rules in California and Massachusetts that prohibit the sale of veal, eggs or pork from confined animals by out-of-state producers. California inspectors were coming into Missouri to inspect poultry operations. Both cases ask whether any one state may dictate how farmers in other states raise livestock, a violation of extraterritorial commercial regulation. California is proposing an initiative for the November 2018 ballot that "prohibits certain commercial sales of specified meat and egg products from animals confined in non-complying manner." (California Secretary of State *Initiatives and Referenda Cleared for Circulation*)

Right to farm

Every state has a right to farm statute written as a "statute of repose." If during a period of time – one, two, three years – a farmer is not accused of negligent operation, he is not liable for a nuisance action.

Baise recommended adding two words to a statute of repose - "changed circumstances" - to show that although a farm may have transitioned to different types of crops/livestock or size of operation, it has always been a farm. Indiana, North Carolina and Texas have done a good job with this. However, last year, North Carolina legislators passed further anti-nuisance legislation limiting plaintiffs in the amount of compensatory damages they can receive to that of the devaluation of their property.

Gary confirmed a listener comment that the statute of repose will protect someone on a future farm but does not go back in time.

Solid waste and nitrates

Washington State lost a case in 2015 where the manure management practices from a large dairy operation were determined to be in violation of RCRA. (RCRA regulates landfills and open dumping of waste, while manure and crop residue returned to the soil as fertilizers are exempt.)

Baise said it all comes back to Iowa and **nitrates in water**. Des Moines Water Works lost a case against three counties claiming that underground drainage tiles in farm fields act as conduits that funnel high levels of nitrates into drinking water. The Clean Water Act provision for nonpoint source management exempts agriculture under Section 319. The safe drinking water standard for public water supplies is 10 parts per million of nitrate-nitrogen. The World Health Organization says there has never been a blue baby death under 50 parts per million. If it comes up in a state legislature, Baise suggested noting the risk of feeding children lots of spinach and carrots that are high in nitrates.

Ashley McCarty discussed how Missouri has one of the earliest sets of statutes on animal feeding operations. It has dealt with these types of complaints in a fairly proactive manner. But neighborhood groups have formed a caucus of complaints regarding them and have tapped into legal resources to deny permits that were lawfully granted and to block or delay the granting of permits to businesses, such as Premium Standard Farms, seeking to locate in the state. Twenty five of the 114 counties in the state essentially have hung up signs that say concentrated animal feeding is not welcome in those counties. They do that through restrictions such as surety bonds, additional setbacks, animals allowed per acre

and lagoons.

Missouri Farmers Care is trying to push back the ability of counties to regulate agriculture has been a no-win. It becomes an issue of local control which is far bigger. So Missouri Farmers Care decided to partner with counties that did not have local restrictions. Within two years it has acquired twenty counties that have regulations that are no more stringent than state law regulating animal agriculture.

It has picked up the Agri-Ready County program, a voluntary partnership with counties that want to make sure Missouri's agriculture industry is strong, cohesive and proactive. It communicates these values through partnerships such as elementary agriculture education that spent ten weeks with third graders last year to talk about fundamental agricultural literacy.

This program does not have to be unique to Missouri. It has been fairly low-budget, low-input and low-staff. It supports county commissioners during those hard conversations with angry neighborhood coalitions regarding facility sitings, BMPs and the bigger issue of economic development. It's about keeping opportunities open and celebrating agriculture rather than running from it. Nebraska was the first with such a program, Nebraska's Ag Friendly Counties.